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09/916,146	07/26/2001	Richard A.A. Heylen	204	8208

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PATENT DEPARTMENT
MACROVISION CORPORATION
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EXAMINER

PYZOCHA, MICHAEL J

ART UNIT	PAPER NUMBER
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2137

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08/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/916,146

Applicant(s)

HEYLEN, RICHARD A.A.

Examiner

Michael Pyzocha

Art Unit

2137

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-7,9,10,12,14-16,18,19,30,31 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,3,5-7,9,10,12,14-16,18,19,30,31 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>7/6/07</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 2137

DETAILED ACTION

1. Claims 2-3, 5-7, 9-10, 12, 14-16, 18-19, 30-31, and 33-35 are pending.
2. Amendment filed 07/06/2007 has been received and considered.

Claim Rejections - 35 USC § 101

3. The rejections under 35 U.S.C. 101 Have been withdrawn based on the filed amendment..

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3, 5-7, 9, 12, 14-16, 18-19, 30-31, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan (US 5699434), in view of Maenza (US 6076165) and further in view of Menezes (Handbook of Applied Cryptography).

Art Unit: 2137

As per claims 30-31, Hogan discloses providing data patterns on the disc arranged such that the disc patterns cannot be accurately copied onto another disc by a writer for recordable discs which has a limited ability to look ahead during encoding, wherein the data patterns have a DSV (digital sum value) which has a rapid rate of change over time wherein the transition in the EFM (eight to fourteen modulation) signal from the data patterns are shifted from their ideal values or the ability of disc drives to maintain optimal head positioning is compromised" (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D); the data patterns making up a signature (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D); wherein the data patterns of the signature and other data are applied to the optical disc using a laser beam recorder controlled by an encoder which has a larger ability to look ahead than the writer and thus can be controlled to accurately write the signature to the disc (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41; Figs 3A,3B,3C,3D).

Hogan fails to explicitly disclose an authentication signature technique used in a mastering process.

However, Maenza teaches employing authentication signature techniques in a mastering process (see Abstract). More

Art Unit: 2137

specifically, Maenza teaches writing data patterns making up an authenticating signature to a disc in a mastering process, whereby the data patterns making up the authenticating signature cannot be accurately copied to another disc using standard equipment. In so doing, security of data in the mastering process is maintained.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Maenza with those of Hogan because doing so allows security of data in a mastering process.

The modified Hogan and Maenza system fails to disclose the use of an XOR function to scramble the patterns that make up the authentication signature.

However, Menezes teaches the use of scrambled data patterns to make an authentication signature (see pages 22-23) and teaches the use of the XOR function to scramble data (see page 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Menezes with those of Hogan and Maenza because doing so allows for non-repudiation of data and to protect data quickly.

As per claim 3, the modified Hogan, Maenza, and Menezes system discloses successful operation of the copy protected disc

Art Unit: 2137

requires that the disc be present in the drive and that a correct authenticating signature be readable therefrom (Hogan: Fig 1; Col 4, lines 18-21).

As per claims 5 and 14, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns additionally to the rapid rate of change ensure that the DSV has an absolute value significantly greater than usual (Hogan: Col 3, lines 43-47).

As per claims 6 and 15, the modified Hogan, Maenza, and Menezes system the provided data patterns are repeated patterns of values (Hogan: Fig 3A, 3B, Col 3, lines 48-59).

As per claims 7 and 16, the modified Hogan, Maenza, and Menezes system discloses the size of the provided data patterns is predetermined (Hogan: Col 6, lines 42-49).

As per claims 9 and 18, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns arranged to produce a DSV which has a substantial low frequency component lower than that of the lowest signal frequency that does not cause DSV problems (Hogan: Col 5, lines 51-63; Fig 3B).

As per claims 12 and 34, the modified Hogan, Maenza, and Menezes system discloses the provided data patterns have a size and/or nature which ensures that they cannot be accurately

Art Unit: 2137

written by a writer of recordable discs (Hogan: Col 3, lines 48-59; Col 1, lines 19-23).

As per claims 19 and 35, the modified Hogan, Maenza, and Menezes system discloses the data patterns are put in a plurality of sectors on the optical disc (Hogan: Col 3, lines 48-60; Col 5, line 64 to Col 6, line 41).

6. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogan in view Maenza of Newman, U.S. Patent No. 6,353,890.

As per claim 2, the modified Hogan, Maenza, and Menezes system fails to identify the use of corrupt or incorrect data on a particular sector to signify that the disc is not original. The errors in Hogan's system only serve to create a large DSV which inhibits copying of the disc.

However, Newman discloses the existence of corrupted or otherwise incorrect data in a particular sector on the optical disc signifies that that disc is not original whereby its use may be prevented (Newman: Col 10, lines 14-21). The errors in Newman's system serve to signify that the disc is or is not original. If the disc is not original, its use is not permitted.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of

Art Unit: 2137

Newman with those of Hogan in view of Maenza and allow for the data patterns to authenticate whether use of a disc is or is not permitted because doing this adds an additional security feature in the system.

As per claim 10, the modified Hogan, Maenza, Menezes and Newman system discloses the authenticating signature is also made up of sectors containing only zeros which are provided both before and after sectors containing the chosen data patterns (Newman: Col 3, lines 15-20; Col 3, lines 60-65);

The modified Hogan, Maenza, and Menezes system describes all the limitations of claim 30.

However, the modified Hogan, Maenza, and Menezes system appears to fail to describe the use of padding sectors with zeros before and after sectors containing chosen data patterns.

Newman discloses that an error free sector (containing only zeros) may adjoin a sector of error data patterns for ease in processing.

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to combine the ideas of Newman with those of Hogan in view of Maenza and add sectors containing only zeros before and after the sectors containing data patterns because doing so makes it easier for reading devices to prove information.

Response to Arguments

7. Applicant's arguments see pages 7-9 pf the response, filed 07/06/2007, with respect to the 35 USC 101 rejection have been fully considered and are persuasive. The rejection of claims 12, 14-16, 18, 19, and 31 under 35 USC 101 has been withdrawn.

8. Applicant's arguments filed 07/06/2007 have been fully considered but they are not persuasive. Applicant argues that the reasons for combining the references are insufficient; that Menezes fails to teach scrambling data; and that a digital signature is no the same as cryptographic protection.

With respect to Applicant's argument that the reasons for combining the references is insufficient, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Maenza teaches the motivation to use its authenticating signature in order to maintain the security of data in the mastering process. In other words to prevent

Art Unit: 2137

unauthorized copying of the data stored during the mastering process (e.g. pirating CDs) (see column 2 lines 2-12). While one of ordinary skill in the art would recognize the speed and simplicity of the well-known XOR method of scrambling and Menezes explicitly discloses, on page 22, that digital signatures provide authentication and non-repudiation. Therefore, the combinations are proper with sufficient motivation to combine the references. Applicant also states that the motivation provided by Menezes is not an aspect of the claimed invention, the fact that Applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

With respect to Applicant's argument that Menezes fails to teach scrambling data, Applicant specifically states that cryptography is not the same as scrambling. However, giving each term its broadest reasonable interpretation, something that scrambles data "reorders a signal sequence in order to render it indecipherable. See Also encryption." And encryption (enciphering) is, "The process of encoding data to prevent unauthorized access, especially during transmission. Encryption

Art Unit: 2137

is usually based on one or more keys, or codes, that are essential for decoding, or returning the data to readable form."

(Both definitions are taken from the Microsoft Computer Dictionary Fifth Edition). Therefore, both scrambling and cryptography (encryption) are methods of making data unintelligible. Applicant also makes the generalization that scrambling is most often used for analog transmissions, however, there is no reference to whether the data in the claim is either digital or analog so the use of the cryptographic ciphering technique of exclusive-OR is the same as the claimed exclusive Or scrambling algorithm. Applicant also attempts to show that scrambling and cryptography are not related by stating that another cryptography book does not have an entry for descrambling. This argument has no weight since that reference is not relied upon. Furthermore, Menezes, on page 285, defines scrambling as encryption. Therefore, this is further evidence that scrambling and encryption (i.e. cryptography) are interchangeable.

With respect to Applicant's argument that a digital signature is not the same as cryptographic protection, a digital signature uses a key to transform (i.e. encrypt) the message data into a signature in order to provide the authentication, authorization and non-repudiation. Therefore, when combined

Art Unit: 2137

with the scrambling XOR method of encryption the cryptographic techniques are very closely related and combinable. Applicant also argues that the cryptographic methods of Menezes do not provide copy protection of discs. However, these methods are provided by the Hogan and Maenza references. Specifically the Maenza reference teaches an authentication signature for protecting data from being copying. Furthermore, the authorization provided by the digital signature of Menezes authorizes or does not authorize the use (i.e. copying) of the data.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 2137

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pyzocha whose telephone number is (571) 272-3875. The examiner can normally be reached on 7:00am - 4:30pm first Fridays of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emmanuel Moise can be reached on (571) 272-3865. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2137

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJP

Matthew D. Smithers
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Primary Examiner
Art Unit 2137